STATE OF MONTANA
JOB DESCRIPTION

Montana state government is an equal opportunity employer. The State shall, upon request, provide reasonable accommodations to otherwise qualified individuals with disabilities.

Job Title: Area Materials Lab Supervisor **Position Number:** 72201, 54201, 57013, 71201, 56201, 52201

Location: Statewide Division Offices

Department: Transportation **Division and Bureau: Construction**

Section and Unit: Materials

Job Overview: *Refer to the instructions and training section for more information.*

The Area Laboratory Supervisor is responsible for managing materials operations and activities throughout the phases of highway construction projects. The position serves as the Area's authority in materials standards, sampling, testing, and application and is expected to coordinate with the District Materials Supervisor and Materials Bureau to ensure the consistency and compliance of independent judgments and decisions in the field. Duties include managing major materials projects, including project budgets, timelines, resource allocations, and procedures; administering the Area Materials Laboratory to ensure effective operations, compliance with standards and regulations, and the accuracy and integrity of sampling, testing, and results analysis; and performing a variety of other duties as assigned. The incumbent reports to the District Materials Supervisor and directly or indirectly supervises 2-4 FTE, based on division office.

Essential Functions (Major Duties or Responsibilities):

A job usually has three to five major duties. List major duties in order of importance. Refer to the instructions and training section for more information.

PROJECT MANAGEMENT – 60%

This position manages pre-construction, construction, and maintenance materials projects to ensure quality, consistency, efficiency, and safety of materials provided to major highway construction projects within the Area. Duties include directing and overseeing pre-construction, construction, and maintenance project planning and implementation, laboratory siting and configuration, and sample

collection procedures; directing and coordinating sample tests and analyzing results; ensuring safety and compliance of the hot plant, equipment, vehicles, and procedures; serving as the Area's authority in materials issues by assessing and resolving complex technical and administrative problems; evaluating new developments in materials to identify and incorporate enhancements; and overseeing WAQTC training. These duties require extensive knowledge of the principles and practices of materials standards; inspection, sampling, testing, and analysis; physical sciences; properties and characteristics of a variety of materials; sampling and laboratory testing protocols and procedures; State, federal, AASHTO, FHWA, and ASTM testing standards, procedures, and project specifications; extensive knowledge of various site-specific characteristics and their potential effects on construction and maintenance projects; operations of various hot plants; and safety practices and procedures. This work also requires skill in supervising, directing, organizing, and coordinating multiple staff and projects, complex sampling and testing procedures, and a variety of equipment; adapting sampling and testing methods and techniques to meet various site-specific circumstances; operating a variety of sampling and testing equipment; operations of hot plant equipment and monitoring devices; and effective written and verbal communication skills. The incumbent must demonstrate an ability to direct and motivate staff toward common goals and objectives; analyze and interpret test results, construction plans and specifications, and technical drawings; and modify test procedures as appropriate.

1. Supervises,directs and oversees Area pre-construction materials activities to determine factors that may affect planned siting, sampling, collection, mixing, and testing activities. This involves delegating and directing pre-construction field research and analysis activities to identify historical and current roadway materials information, gravel availability and quality, and archeological sites, sensitive natural features (e.g., vegetation, ground and surface water sources, endangered species habitat, etc.), utilities, and other considerations requiring plan modifications; determining viable materials sources and securing right-of-entry; and inspecting unique site features (e.g., pipes, drainage culverts, supports, etc.). The incumbent evaluates site assessment reports to determine necessary modifications to proposed project plans and coordinates with other project staff to integrate changes and requirements.
2. Supervises, directs and oversees Area materials construction and maintenance project activities to ensure safety, compliance, and quality assurance throughout all phases of materials sampling,testing, and documentation, bituminous mix testing, seed and fertilizer blending, QPL and other precast facility inspections, soil compaction, core correlation, QA core densities, Buy America Provisions, road profilers, and other activities. This involves planning and directing random and scheduled materials sampling, testing, blending, soil compaction, reviewing project submittal documentation, IRI and PI surface smoothness, and core correlation activities; evaluating results to ensure technical integrity and compliance; and identifying and resolving deficiencies, discrepancies, and other problems.
3. Supervises, directs and oversees laboratory siting and configuration to ensure safety, efficient testing, and observation of the hot plant by assessing site characteristics, conferring with

Bureau Chiefs, contractors, suppliers, and project managers; assessing power requirements and supplies; and overseeing the set-up and calibration of all testing equipment, traffic cones, and core correlation activities. The incumbent must frequently determine and direct equipment modifications or adaptations according to various laboratory configurations; maintenance, repair, and calibration of scales, burn ovens, volumetric equipment, and other equipment; and complete software installation for the operation, maintenance, and calibration of all laboratory equipment.

4. Supervises, directs and oversees sample collection activities for gravel pit surveys to identify borrow and surfacing sources by determining and applying a variety of technical sampling methods, techniques, and equipment to specific materials according to unique site characteristics. Coordinates underground utility locates. This may require determining specialized procedures for various materials, altering or adapting prescribed collection methods and guidelines according to unique site characteristics, and identifying site circumstances that may warrant further sampling and testing.
5. Supervises, directs and coordinates sample tests to determine compliance with established standards, coordinate quality assurance and independent assurance measures, and determine if further sampling or testing is required by determining specific technical methods and techniques to apply based upon the type of sample, calibrating testing equipment and running controls to ensure accuracy, and monitoring testing procedures to ensure the integrity of results. The incumbent must determine specific sampling methods, tests, and sequences according to the type and intended use of the material to ensure consistent and accurate results.
6. Analyzes test results to determine the overall suitability of materials for various projects and develop necessary modifications to mix designs. This involves correlating various test results to determine relationships between factors such as additives, gradations, asphalt content, stability, voids, and flow as well as with other site observations (e.g., equipment used, quality of stockpiles, etc.) to evaluate the nature and cause of deviations from standards (e.g., equipment problems, incorrect temperatures, improper handling practices, contaminated materials, moisture in stockpiles, improper gradations, unique asphalt stability and flow properties, additives, etc.).
7. Assesses various features of the site and hot plant to identify visual signs of practices or materials that are out of compliance (e.g., equipment or individuals contaminating stockpiles, overheated or over/under asphalted mix; broken or inaccurate equipment, gauges, or measuring devices; improperly functioning machinery; unsafe practices; etc.), and to gather baseline information used in the compilation of BMP test results (i.e., information gathered in the initial assessment regarding materials and practices at the site will eventually be used in interpreting possible causes of discrepancies with project specifications).
8. Assesses and resolves complex project administration problems, identifies and addresses project resource needs, and coordinates the exchange of accurate, current information among contractors, District and Department staff, fabricators, local governments, suppliers, private

businesses, and others associated with construction projects. This includes securing necessary permits, interpreting project requirements, contract law, and other applicable laws and regulations, negotiating among various parties to resolve disputes, and monitoring and coordinating interrelated projects with other agencies.

9. Evaluates new materials testing methods, techniques, experimental products, and new technologies to determine and implement operational efficiencies, cost-saving measures, and other enhancements. Researches information and Data related to new developments in materials design and testing, assesses developmental methods proposed by other staff and managers, and implements appropriate operational and resource enhancements to improve quality, efficiency, safety, and/or cost-effectiveness of District materials operations and activities. Implement schedule and policy changes.
10. Oversees materials staff, the training of field engineers, and maintenance personnel, and other government agency staff to ensure effective implementation of WAQTC/AASHTO/ASTM procedures and requirements. Monitor operations to ensure that staff members comply with administrative policies and procedures , safety rules, union contracts, and government regulations. Identifies training needs based on staff competencies and changing requirements, delivers or coordinates training by subordinate staff, and monitors procedures to ensure appropriate implementation Maintains NRC (nuclear regulatory) requirements for storage, inventory, documentation and training. Conducts field inspections audits for ensuring proper procedures are being followed for safe operation, storage, and inventory of Nuclear Density devices.

LABORATORY ADMINISTRATION AND TECHNICAL ASSISTANCE FOR MDT's CONCRETE, AGGREGATE, PLANT MIX, AND SOILS PROGRAM – 25%

This position administers the ongoing operations and activities of the Area materials laboratory to ensure the overall quality, efficiency, and effectiveness of laboratory operations and resources (e.g., Human, equipment, financial, etc.) by planning and directing Area laboratory ongoing laboratory operations and activities; recommending operational policies, procedures, and guidelines; directing vehicle, equipment, and supply assignment, maintenance, repair, and ordering activities; ensuring the safe and effective operation and maintenance of nuclear densimeter gauges, road profilers, and other equipment; monitoring and fulfilling laboratory inventory and equipment needs, completing requisitions, and/or procuring immediate needs; actively researching and reviewing current information related to materials equipment, testing and sampling procedures, regulations, and other issues; conducting monthly safety meetings and monitoring and enforcing safety protocols on-site and in the laboratory; and updating manuals and procedures as required. These duties require knowledge of the principles and practices of materials standards; inspection, sampling, testing, and analysis; properties and characteristics of a variety of materials; project development, implementation, and management principles; sampling and laboratory testing protocols and procedures; safety practices and procedures; and personnel management practices and techniques. These duties also require skill in directing, organizing, and coordinating multiple staff, complex

sampling and testing procedures, and a variety of equipment; adapting testing methods and techniques to meet various site-specific circumstances and in the operation of a variety of sampling and testing equipment; and in the use of standard office software applications. Laboratory administration also requires the ability to analyze and interpret test results, construction plans, and technical drawings; accurately perform mathematical computations; and modify test procedures as changes to these procedures are made.

1. Plans and oversees Area laboratory operations and activities to ensure the overall quality, efficiency and cost effectiveness of materials sampling, testing, and reporting procedures. Develops short and long-term plans, objectives, and cost-effective strategies for meeting changing needs of various construction projects, materials standards, and available resources. This involves assessing Area construction and materials needs; evaluating new or alternative methods and procedures; reviewing and interpreting changing contracts, program/project requirements, and technical specifications; and developing plans and procedures to meet District objectives.Provide related materials training to department personell through different means such as hands-on instruction, presentations, contracting industry, etc.
2. Recommends operational policies, procedures, and guidelines that agree with Department requirements while satisfying the complex materials needs of various projects. This requires assessment of changes in highway engineering trends and materials standards, new project requirements, industry practices, needs of the traveling public, new technologies, and other factors to develop new approaches to ongoing operations as well as specific projects.
3. Oversees vehicle, equipment, and supply assignment, maintenance, repair, and ordering activities to ensure employee safety, efficient and effective use of Department resources, and prolonged life of significant capital investments. This involves scheduling vehicles and equipment based on project priorities, types of equipment, and staff needs; coordinating equipment and vehicle usage; responding to repair needs based on the type and use of equipment and project priorities; projecting equipment needs and developing replacement schedules based on history and expected usage; and ordering materials equipment and other supplies as needed based on assessment of historical practices, current inventory levels, and anticipated project requirements.
4. Ensures the safe and effective operation and maintenance of nuclear densimeter gauges, road profilers, and other technological equipment and vehicles to ensure safe and effective operations by project staff. Oversees equipment and vehicle calibration, testing, allocation to various project schedules, and reporting (e.g., nuclear exposure records, accuracy measurements, etc.),. Accurate data collected by these and other systems provides baseline information for determining incentives and deductions for contractors.
5. Monitors laboratory inventory and equipment needs, completes requisitions, and/or procures immediate needs to ensure adequate supplies and equipment to support the functions of the materials laboratory. This involves identifying needs, providing expertise and specifications for specialty items, and researching and purchasing supplies and equipment.

The incumbent may exercise limited purchasing authority for immediate needs or recommend larger expenditures as required.

6. Researches and reviews current information related to materials standards, equipment, testing and sampling procedures, and other issues to stay abreast of changing trends and technologies, identify new standards for equipment and employees, and determine how to incorporate new technologies, procedures, regulations, and other issues into the administration and operation of the materials laboratory.Reviews and transmits all concrete and plant mix designs to Materials Bureau for production under various highway projects.
7. Conducts monthly safety meetings to inform laboratory technicians of changing safety protocols, limitations and capabilities of sampling and testing equipment, site-specific characteristics, unusual or modified procedures, and other issues that affect the safety of project staff and the public. The incumbent also monitors and enforces safety protocols on site and in the laboratory.
8. Updates and recommends changes to manuals and procedures to reflect new policies, methods, regulations, equipment, and other information provided by the department. The incumbent must determine how to implement new information within established methods, procedures, and priorities; inform staff of changing parameters; and conduct training as necessary to ensure effective implementation of all provisions. Updates MSDS manuals, monitors inventory, and label hazardous material used in the area laboratory.
9. Serve as the conduit of highly technical information between project engineering management and the Materials Bureau.

SUPERVISION – 10%

This position manages laboratory staff in establishing work plans, priorities, and procedures; developing and recommending overall responsibilities and allocation of staff; coordinating assignments through lead workers; handling disciplinary actions and resolving conflicts; and training staff as necessary. The position is responsible for determining duties and responsibilities of subordinate positions and evaluating performance. This work requires knowledge of Department of Transportation and State of Montana personnel procedures and policies, organization theory, employment law, unions, program requirements, and personnel management practices and techniques, directing, organizing, and coordinating multiple staff, complex sampling and testing procedures, and a variety of equipment; effective written and verbal communication skills; and skill in the use of standard office software applications for correspondence, scheduling, information management, and other tasks. These duties also require the ability to direct and motivate staff toward common goals and objectives.

1. Establishes and revises overall laboratory work plans, priorities, and procedures and monitors progress through meetings and consultations. Conducts staff meetings, disseminates data, and promotes information exchange to support and advance the goals and objectives of the division.

2. Develops and recommends overall responsibilities and allocation of positions supervised. Identifies staffing needs and recommends and justifies requests for additional personnel as necessary.
3. Participates in recruitment and selection committees for the laboratory. This involves developing selection criteria and interview questions, participating in interviews, developing test questions, scoring answers to verbal tests; and recommending hiring decisions.
4. Conducts performance management. Establishes objective, measurable, and observable performance standards for all subordinate positions. Monitors and manages the performance of all positions directly supervised and completes performance appraisals. Implements and monitors corrective actions, including disciplinary measures. Ensures staff compliance with State and departmental personnel rules, regulations, union contracts, and policies.
5. Administers laboratory career ladders and staff development. This involves establishing progression plans for employees, monitoring progress, and developing recommendations for promotion of subordinate staff.
6. Oversees Department construction, engineering and intern staff involved in sampling and testing procedures to provide quality assurance and ensure accurate test results.
7. Performs a variety of other supervisory responsibilities, including signing time slips and approving leave requests and purchases, maintaining filing systems, ensuring the effective distribution of reports and documentation, and other tasks necessary to ensure the effective operation of the laboratory and effective personell management.

OTHER DUTIES – 5%

Performs a variety of other professional and technical duties in support of ongoing Area and District operations. This includes activities such as coordinating special projects, conducting or coordinating research with Montana State University, attending meetings and conferences, representing the Department to local groups and communities, and attending ongoing training and educational programs as directed.

Supervision

If this incumbent supervises others, please list each employee supervised and the position number:

The number of employees supervised is: 2-4 FTE

The position number for each supervised employee is: varies by division – supervises the lab technicians in the division labs.

Physical and Environmental Demands:

List physical aspects of the job, including frequency and duration, and environmental factors an incumbent can expect in this position. You may also access the State of Montana Safety Program, the Return to Work Program, and other Resources.

PHYSICAL

- This position is required to carry up to 70 lbs.
- Carry light items (papers, books, small parts)
- Remaining seated for extended periods of time, with occasional walking; standing; bending
- Travel within the state to project locations, and travel to conferences and meetings.
- Operating a personal computer
- Communicate in writing, in person, and over the phone

MENTAL

- Deal with the public on a regular basis
- Ability to multi-task; individual must be able to manage competing demands for time and attention with limited resources
- Demands for accuracy in all aspects of work
- Proficient communication skills: individual must be clear and concise in responding to a variety of individuals in level, technical responsibility and industry knowledge. Ability to synthesize complex terms and translate the technical aspects into policy formulation is critical and communication competence must be exhibited in stellar form in written and verbal form for audiences in person as well as remote
- Ability to meet inflexible deadlines and prioritize on an on-going basis to meet tight timelines
- Decision making that affects public health and safety
- Computing arithmetic operations
- Comparing data to understand cause and effect with relation to changing environmental factors
- Compiling information in a comprehensive manner to create a simplified approach to analysis and data tracking
- Analyzing
- Managing resources including staff, time, budget and equipment effectively
- Synthesizing complex data and requirements into a compelling plan of action
- Negotiating
- Instructing
- Delivering consistent, reliable and repeatable results to constituents

Knowledge, Skills and Abilities (Behaviors):

List the knowledge, skills and abilities (behaviors) typically required for the first day of work. You may also list preferred knowledge, skills and abilities.

Knowledge

This position requires extensive knowledge of the principles and practices of materials standards; inspection, sampling, testing, and analysis techniques, physical sciences; properties and characteristics of a variety of materials; project development, management, and budgeting methods; new and established sampling and laboratory testing protocols and procedures; state, federal, AASHTO, FHWA, and ASTM testing standards, procedures, and project specifications; methods and techniques of highway construction; extensive knowledge of various site-specific characteristics and their potential effects on construction projects (e.g., soils, temperature, weather conditions, gradations, segregation, stability, flows, additives, absorption rates, etc.); operations of various hot plants (e.g., drum dryers, batch plants, etc.); safety practices and procedures; and contract law and claims management. Supervisory responsibilities require knowledge of Department and State personnel procedures and policies, organization theory, employment law, rules and regulations, program requirements, and personnel management practices and techniques. A progressively responsible knowledge of specialized sampling and testing equipment, software, and other technologies is also required.

Skills

This position requires skill in directing, organizing, and coordinating multiple staff and projects, complex sampling and testing procedures, and a variety of equipment; adapting sampling and testing methods and techniques to meet various site-specific circumstances; operating a variety of sampling and testing equipment (e.g., coring machines, auger trucks, laser profiler, gyratory compaction device, nuclear gauges); and operations of hot plant equipment and monitoring devices (e.g., gauges, hydrated lime feed, bin splits, specific gravity, segregation, etc.). Effective written and verbal communications skills are also required in communicating technical information and project plans with landowners, contractors, and department staff; and directing and coordinating a variety of technical and professional training programs. This position further requires skill in the use of standard office software applications (i.e., word processing, spreadsheet, scheduling, geo systems (proctors) etc.) in the performance of laboratory management, supervisory, and training duties.

Minimum Qualifications (Education and Experience):

List the required education and experience required for the first day of work, including alternative methods of acquiring minimum qualifications

The required knowledge and skills are typically acquired through a combination of education and experience equivalent to two years of technical training or course work at at college or technical institution.

This position requires a minimum of four years of progressively responsible experience in construction lab testing or highway construction, including a minimum of one year of supervisory experience.

Certifications, licensure, or other credentials include: requires a commercial Class B, Type 2 driver's license or must acquire within 60 days of hire.

Alternative qualifications include: Any combination of additional related work experience and education equivalent to the minimum qualifications.

Special Requirements:

List any other special required information for this position

☐	Fingerprint check	☒	Valid driver's license
☐	Background check	☐	Other; Describe
None	Union Code	Yes	Safety Responsibilities

The specific statements shown in each section of this description are not intended to be all inclusive. They represent typical elements and criteria considered necessary to perform the job successfully.

Signatures

My signature below indicates the statements in the job description are accurate and complete.

Immediate Supervisor	**Title**	**Date**

Administrative Review	**Title**	**Date**

My signature below indicates that I have read this job description.

Employee	**Title**	**Date**

Human Resources Review

Job Code Title: Materials Lab Specialist **Job Code Number: 172715**

Pay Band: 5

My signature below indicates that Human Resources has reviewed this job description for completeness and has made the following determinations:

☐ FLSA Exempt ☒ FLSA Non-Exempt

☐ Telework Available ☒ Telework Not Available

☒ Classification Complete ☐ Organizational Chart attached

Human Resources:

Renae Lang	Workforce Planning Manager	10/25/2018
Signature	**Title**	**Date**